

IN THE CLAIMS

Please amend the claims as follows:

1 (Original): A protection circuit for a fuel cell stack having one or more fuel cells, the protection circuit comprising:

 a detection unit detecting abnormality of a potential difference between positive and negative electrodes of at least one fuel cell of the fuel cell stack; and

 a bypass unit forming bypass current path between the positive and negative electrodes, the bypass unit being operative when the detection unit detects the abnormality of the potential difference.

2 (Original): The protection circuit of Claim 1, wherein:

 the bypass unit comprises a switching device conducting an electric current when the detection unit detects the abnormality of the potential difference, the switching device being connected to the fuel cell in parallel.

3 (Currently Amended): The protection circuit of Claim 2, wherein:

~~the fuel cell is selected from the fuel cells except a grounded fuel cell of the fuel cell stack and the bypass unit comprises a level conversion driver switching the switching device connected to the fuel cell except a grounded fuel cell.~~

4 (Currently Amended): The protection circuit of Claim 1, wherein:

 the bypass unit comprises a first switching device cutting off an electric current when the detection unit detects the abnormality of the potential difference, the first switching device connected to the fuel cell in series, and a second switching device conducting an electric

current when the detection unit detects the abnormality of the potential difference, the second switching device connected in parallel to a series connection of the fuel cell and the first switching device in parallel.

5 (Currently Amended): The protection circuit of Claim 4, wherein:

~~the fuel cell is selected from the fuel cells of the fuel cell stack excepting a grounded fuel cell and the bypass unit comprises a level conversion driver switching the first switching device and the second switching device connected to the fuel cell except a grounded fuel cell.~~

6 (Canceled).

7 (Original): The protection circuit of Claim 1, wherein:

the fuel cell comprises a series of plural unit fuel cells.

8 (Original): The protection circuit of Claim 7, further comprises:

plural detection units respectively detecting abnormality of potential differences between the positive and negative electrodes of the plural unit fuel cells, the bypass unit being operative when at least one of the plural detection units detects the abnormality of the potential difference.

9 (Original): A fuel cell system comprising:

a fuel cell stack;

a detection unit detecting abnormality of a potential difference between positive and negative electrodes of at least one unit fuel cell of the fuel cell stack; and

a bypass unit forming bypass current path between the positive and negative electrodes,

the bypass unit being operative when the detection unit detects the abnormality of the potential difference.

10 (Original): A fuel cell system comprising:

a fuel cell stack;

a detection unit detecting abnormality of a potential difference between both ends of at least one series of plural unit fuel cells, the plural unit fuel cells being connected in series and constituting a part of the fuel cell stack; and

a bypass unit forming bypass current path between the ends, the bypass unit being operative when the detection unit detects the abnormality of the potential difference.

11 (Original): A fuel cell system comprising:

a fuel cell stack;

plural detection units respectively detecting abnormality of potential differences between the positive and negative electrodes of plural unit fuel cells, the plural unit fuel cells being connected in series and constituting a part of the fuel cell stack; and

a bypass unit forming bypass current path between both ends of the series of the plural unit fuel cells, the bypass unit being operative when at least one of the plural detection units detects the abnormality of the potential difference.

12 (New): The protection circuit of Claim 1, wherein:

the detection unit is configured to compare the potential difference with a threshold value to detect the abnormality as a state that the potential difference goes below the threshold value.

13 (New): The protection circuit of Claim 1, wherein:

the bypass unit short-circuits the positive electrode and the negative electrode to form the bypass current path.

14 (New): The fuel cell system of Claim 9, wherein:

the detection unit is configured to compare the potential difference with a threshold value to detect the abnormality as a state the potential difference goes below the threshold value.

15 (New): The fuel cell system of Claim 9, wherein:

the bypass unit short-circuits the positive electrode and the negative electrode to form the bypass current path.

16 (New): A method of protection of a fuel cell stack, comprising:

detecting abnormality of a potential difference between positive and negative electrodes of at least one fuel cell of the fuel cell stack;
forming bypass current path between the positive and negative electrodes when the abnormality of the potential difference is detected.

17 (New): The method of Claim 16, wherein:

the detecting step comprises comparing the potential difference with a threshold value to detect the abnormality as a state that the potential difference goes below the threshold value.

18 (New): The method of Claim 16, wherein:

the forming step comprises short-circuiting the positive electrode and the negative

electrode to form the bypass current path.

19 (New): The method of Claim 16, further comprising:
cutting off the bypass current path when the abnormality of the potential difference is
not detected.

20 (New): The method of Claim 16, further comprising:
cutting off the bypass current path after waiting a predetermined period of time after
forming the bypass current path.